

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A moving-magnet-type linear slider comprising:
 - a linear guide which movably supports and guides left and right sides of a table arranged parallel with and opposite to a fixed base wherein the linear guide includes a slider and a guide rail;
 - a linear motor which reciprocally moves the table in a longitudinal direction over the guide rail relative to the fixed base; and
 - detecting means for detecting a relative position of the table and the fixed base; characterized in that
 - the linear motor comprises an armature having an multi-phase armature winding wire wound on an armature core serving as a magnetic circuit fixed on the fixed base, and a permanent magnet for a magnetic field, the permanent magnet being attached on the table and arranged opposite to the armature interposing a magnetic gap,
 - the detecting means comprises a linear scale portion fixed to the table, and a sensor head portion which detects the linear scale, the sensor head portion being attached on a fixed base side, and
 - the armature is arranged such that a thrust center axis where a thrust of the armature is generated is substantially coincident with a center axis of a space between the left and right guide rails.

2. (currently amended) The moving-magnet-type linear slider according to claim 1, characterized in that the moving-magnet-type linear slider further comprises:
 - a magnetic-pole detector which detects a relative position of the armature and the permanent magnet for a magnetic field is structurally arranged on an opposite side of the linear scale, wherein the magnetic-pole detector includes a hall element constituting a part of

~~the magnetic pole detector is fixed on the fixed base side, and a magnetic-pole detector permanent magnet constituting another part of the magnetic pole detector is fixed on the table side so as to have an equal pitch as the permanent magnet for a magnetic field.~~

3. (currently amended) The moving-magnet-type linear slider according to claim 1, characterized in that the fixed base is provided with a mounting hole for attaching the moving-magnet-type linear slider to an external apparatus, wherein the mounting hole is formed in a position outside or inside of the guide rail.

4. (currently amended) The moving-magnet-type linear slider according to claim 1, wherein the sensor head ~~incorporates~~ includes a serial-signal conversion circuit which converts ~~a magnetic pole detection signal and a scale signal of the linear motor output from the detecting means~~ into a serial signals.

5. (currently amended) The moving-magnet-type linear slider according to claim ~~1 or 4~~, characterized in that the sensor head has a memory into which a motor parameter of the linear motor is input, wherein, when the linear slider and a driver are connected together, the motor parameter is also converted into a serial signal by the serial-signal conversion circuit, ~~thus providing a contrivance to transmit and the serial signal is transmitted~~ to the driver.

6. (original) The moving-magnet-type linear slider according to claim 1, characterized in that the linear scale mounts thereon an absolute-type encoder which detects an absolute position signal of the linear-motor mover.

7. (new) The moving-magnet-type linear slider according to claim 2, characterized in that the moving-magnet-type linear slider further comprises a serial converter which converts a scale signal of the linear motor output from the detecting means and a magnetic-pole detection signal output from the magnetic-pole detector into serial signals.

8. (new) The moving-magnet-type linear slider according to claim 7, wherein the sensor head has a memory into which a motor parameter of the linear motor is input, wherein, when the linear slider and a driver are connected together, the motor parameter is also converted into a serial signal by the serial converter, and the serial signal is transmitted to the driver.